

**EXTENDING THE LIFE OF SCANIA P410 ENGINE BY PREVENTING  
ENGINE OVERHEAT: A CASE STUDY AT PT ABC, TENGGARONG, EAST  
KALIMANTAN, INDONESIA.**

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## STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.



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## ABSTRACT

### EXTENDING THE LIFE OF SCANIA P410 ENGINE BY PREVENTING ENGINE OVERHEAT: A CASE STUDY AT PT ABC, TENGGARONG, EAST KALIMANTAN

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Engine overheating is a critical issue that can significantly reduce the service life of heavy equipment. This study investigated the root causes of frequent engine overheating in Scania P410 trucks operating in a mining environment at PT ABC in Tenggarong, East Kalimantan. Using Fishbone Diagram and Failure Mode and Effect Analysis (FMEA) techniques, the study identified key factors contributing to engine overheating, including thermostat, clogged radiators, coolant leaks, and inadequate preventive maintenance practices. Corrective and preventive actions were implemented, such as replacing the thermostat with new specifications, increasing activity levels, and improving preventive maintenance activity. Implementation of these measures resulted in a significant reduction in engine overheating incidents and extended engine service life. These findings contribute to practical guidelines for improving engine reliability and performance in demanding operational environments.

*Keywords: Engine Overheating, Scania P410, FMEA, Fishbone Diagram, Preventive Maintenance, Corrective Maintenance.*



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## **DEDICATION**

I dedicate this thesis to my loved ones: my wife, my children and my parents.



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